

(FILE 'USPAT' ENTERED AT 10:23:45 ON 21 SEP 1999)
ACT PROTECTDATA/L

L1 QUE PLU=ON DATA (2A) PROTECT?
L2 QUE PLU=ON UTILIZ? OR USE? OR USING
L3 QUE PLU=ON ALLOW? OR PERMI?
L4 QUE PLU=ON JUDG? OR COMPAR?
L5 QUE PLU=ON COPYRIGHT? OR COPY OR COPYING OR DUPLICAT?
L6 (398)SEA FILE=USPAT PLU=ON L1 (P) L2 (P) L3
L7 QUE PLU=ON FORBID? OR PROHIBIT?
L8 (65)SEA FILE=USPAT PLU=ON L6 AND L7
L9 QUE PLU=ON APPEND? OR ATTACH? OR ADD?
L10 QUE PLU=ON APPEND? OR ATTACH? OR ADDING? OR ADDED OR AD
L11 (55)SEA FILE=USPAT PLU=ON L8 AND L10
L12 QUE PLU=ON STOR? OR SAV?
L13 (55)SEA FILE=USPAT PLU=ON L12 AND L11
L14 QUE PLU=ON INPUT (P) DATA
L15 QUE PLU=ON ENCRYPT?
L16 (1)SEA FILE=USPAT PLU=ON 5392351/PN
L17 (0)SEA FILE=USPAT PLU=ON L16 AND (L15 (P) L14)
L18 QUE PLU=ON DIFFER?
L19 (1)SEA FILE=USPAT PLU=ON L16 AND (L18 (P) DATA)
L20 (5)SEA FILE=USPAT PLU=ON 5832083/PN OR 5796824/PN OR 5761651
/PN
L21 (5)SEA FILE=USPAT PLU=ON L20 AND (L18 (P) DATA)
L22 (304)SEA FILE=USPAT PLU=ON L6 AND (L18 (P) DATA) AND FY<1997
L23 QUE PLU=ON AFTER?
L24 (71)SEA FILE=USPAT PLU=ON L22 AND (L18 (P) DATA (P) L23)
L25 (0)SEA FILE=USPAT PLU=ON L24 AND 705/CCLS
L26 (0)SEA FILE=USPAT PLU=ON L24 AND 705/CLAS
L27 (3)SEA FILE=USPAT PLU=ON L24 AND 395/CLAS
L28 (1)SEA FILE=USPAT PLU=ON 5864683/PN AND (L23 (P) L18 (P) DAT
A)
L29 (1)SEA FILE=USPAT PLU=ON 5862325/PN AND (L23 (P) L18 (P) DAT
A)
L30 (1)SEA FILE=USPAT PLU=ON 5276876/PN AND (L23 (P) L18 (P) DAT
A)
L31 (14)SEA FILE=USPAT PLU=ON L24 AND 380/CLAS
L32 (1)SEA FILE=USPAT PLU=ON L31 AND (L23 (5A) DATA (5A) L18)
L33 QUE PLU=ON UPDAT? OR PASTE? OR ADD?
L34 QUE PLU=ON L33 (3A) DATA
L35 QUE PLU=ON UPDAT? OR PASTE? OR ADDED OR ADDING# OR ADDS
L36 (0)SEA FILE=USPAT PLU=ON L20 AND (L35 (3A) DATA)
L37 (6)SEA FILE=USPAT PLU=ON 5392351/PN OR 5761651/PN OR 5832083
/PN
L38 (1)SEA FILE=USPAT PLU=ON L37 AND (L12 (P) L14)
L39 QUE PLU=ON L10 OR L33
L40 QUE PLU=ON PREPAR? OR GENERAT? OR DISPLAY? OR APPEND?
L41 QUE PLU=ON L39 OR L40
L42 (1)SEA FILE=USPAT PLU=ON 5761651/PN
L43 (1)SEA FILE=USPAT PLU=ON 5832083/PN
L44 (0)SEA FILE=USPAT PLU=ON L16 AND (STOR? DATA)
L45 (1)SEA FILE=USPAT PLU=ON L16 AND (STOR? (P) DATA)
L46 QUE PLU=ON PREPAR? OR GENERAT? OR APPEND? OR WORK? OR D
L47 QUE PLU=ON INPUT? (P) DATA
L48 (0)SEA FILE=USPAT PLU=ON L16 AND (L47 (P) L46)
L49 QUE PLU=ON INPUT?
L50 (1)SEA FILE=USPAT PLU=ON L16 AND (L46 (P) L49)

Scan

*Scan
images*

(reviewed sum.)

L51 (0)SEA FILE=USPAT PLU=ON L16 AND L4
 L52 QUE PLU=ON APPEND? OR ADD? OR JOIN?
 L53 QUE PLU=ON DATA OR INFORMATION#
 L54 QUE PLU=ON APPEND? OR ADDING# OR ADDED OR JOINING OR JO
 L55 (0)SEA FILE=USPAT PLU=ON L16 AND (L54 (P) L53)
 L56 (0)SEA FILE=USPAT PLU=ON L16 AND L54
 L57 (1)SEA FILE=USPAT PLU=ON L42 AND (L54 (P) L53)
 L58 QUE PLU=ON DECI? OR L4
 L59 (0)SEA FILE=USPAT PLU=ON L16 AND L58
 L60 (1)SEA FILE=USPAT PLU=ON L42 AND L58
 L61 (1)SEA FILE=USPAT PLU=ON L16 AND (L46 (P) L49)
 L62 (0)SEA FILE=USPAT PLU=ON L42 AND (L46 (P) L49)
 L63 (1)SEA FILE=USPAT PLU=ON L43 AND (L46 (P) L49)

L64 0 S L16 AND (L58 (P) L49 (P) L15)
 L65 1 S L42 AND (L58 (P) L49 (P) L15)
 L66 QUE L18 OR DISTINGUISH?
 L67 1 S L16 AND L66
 L68 1 S L42 AND L66
 L69 1 S L43 AND L66
 L70 QUE L33 OR APPEND?
 L71 QUE L35 OR APPEND?
 L72 0 S L16 AND (L71 (P) (DATA? OR INFORMATION#))
 L73 1 S L42 AND (L71 (P) (DATA? OR INFORMATION#))
 L74 QUE LICENS?
 L75 QUE L4 OR DECI?
 L76 0 S L16 AND (L75 (P) L74)
 L77 0 S L42 AND (L75 (P) L74)
 L78 1 S L43 AND (L75 (P) L74)
 L79 QUE BALANC?
 L80 0 S L16 AND (L79 (P) L74)
 L81 0 S L42 AND (L79 (P) L74)
 L82 0 S L43 AND (L79 (P) L74)

(considered)

US PAT NO: 5,832,083 [IMAGE AVAILABLE] ANS: 1
 DATE ISSUED: Nov. 3, 1998
 TITLE: Method and device for utilizing data content
 INVENTOR: Noboru Iwayama, Kawasaki, Japan
 Naoya Torii, Kawasaki, Japan
 Takayuki Hasebe, Kawasaki, Japan
 Masahiko Takenaka, Kawasaki, Japan
 Masahiro Matsuda, Kawasaki, Japan
 ASSIGNEE: Fujitsu Limited, Kawasaki, Japan (foreign corp.)
 APPL-NO: 08/509,285
 DATE FILED: Jul. 31, 1995
 FRN-PRIOR: Japan 6-252623 Sep. 9, 1994
 INT-CL: [6] H04K 1/00
 US-CL-ISSUED: 380/4, 25
 US-CL-CURRENT: 380/4, 25
 SEARCH-FLD: 380/4, 25, 21
 REF-CITED:

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4,439,670	3/1984	Bassett et al.
4,446,519	5/1984	Thomas
4,484,217	11/1984	Block et al.
4,558,176	12/1985	Arnold et al.
4,590,557	5/1986	Lillie
4,646,234	2/1987	Tolman et al.
4,649,510	3/1987	Schmidt
4,654,799	3/1987	Ogaki et al.
4,658,093	4/1987	Hellman
4,672,554	6/1987	Ogaki
4,674,055	6/1987	Ogaki et al.
4,740,890	4/1988	William
4,780,905	10/1988	Cruts et al.
4,787,050	11/1988	Suzuki
4,816,653	3/1989	Anderl et al.
4,816,654	3/1989	Anderl et al.
4,817,140	3/1989	Chandra et al.
4,864,516	9/1989	Gaither et al.
4,879,645	11/1989	Tamada et al.
4,949,257	8/1990	Orbach
4,999,806	3/1991	Chernow et al.
5,006,849	4/1991	Baerman et al.
5,008,814	4/1991	Mathur
5,014,234	5/1991	Edwards, Jr.
5,016,009	5/1991	Whiting et al.
5,051,822	9/1991	Rhoades
5,056,009	10/1991	Mizuta
5,103,392	4/1992	Mori
5,103,476	4/1992	Waite et al.
5,166,886	11/1992	Molnar et al.
5,181,107	1/1993	Rhoades
5,199,066	3/1993	Logan
5,214,697	5/1993	Saito
5,222,134	6/1993	Waite et al.
5,245,330	9/1993	Wassink
5,267,171	11/1993	Suzuki et al.

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Japanese Patent Laid-Open Publication No. 57-127249, Aug. 7, 1982
 (equivalent to Japanese patent Publication No. 61-22815).

Japanese Patent Laid Open Publication No. 5-89363, Apr. 9, 1993.
Japanese Patent Laid Open Publication No. 5-266575, Oct. 15, 1993.
Japanese Patent Laid Open Publication No. 5-298085, Nov. 12, 1993.
Japanese Patent Laid Open Publication No. 6-95871, Apr. 8, 1994.
ART-UNIT: 222
PRIM-EXMR: David G. Cain
LEGAL-REP: Staas & Halsey

ABSTRACT:

The present invention provides a data content utilizing device having data storing section for storing information obtained by encoding data contents and content identification information specifying the data contents, a utilization permitting device for generating utilization permission information used to decode data contents desired by a user and information converting section for loading data contents requested by the user from the data storing section and decoding the data contents only in the case where utilization permission information is generated by the utilization permitting device.

43 Claims, 21 Drawing Figures

US PAT NO: 5,761,651 [IMAGE AVAILABLE] ANS: 2
DATE ISSUED: Jun. 2, 1998
TITLE: Software charging system and software data utilization
permitting device
INVENTOR: Takayuki Hasebe, Kawasaki, Japan
Naoya Torii, Kawasaki, Japan
Noboru Iwayama, Kawasaki, Japan
Masahiko Takenaka, Kawasaki, Japan
Masahiro Matsuda, Kawasaki, Japan
ASSIGNEE: Fujitsu Limited, Kawasaki, Japan (foreign corp.)
APPL-NO: 08/490,049
DATE FILED: Jun. 13, 1995
FRN-PRIOR: Japan 6-188667 Aug. 10, 1994
INT-CL: [6] G06F 17/60
US-CL-ISSUED: 705/400, 30, 32
US-CL-CURRENT: 705/400, 30, 32
SEARCH-FLD: 194/215, 216, 217; 222/2; 364/400, 401, 406, 464.01,
464.1; 380/4; 395/230, 232

REF-CITED:

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4,446,519	5/1984	Thomas	395/491
4,484,217	11/1984	Block et al.	358/84
4,558,176	12/1985	Arnold et al.	178/22.08
4,590,557	5/1986	Lillie	395/700
4,593,376	6/1986	Volk	364/401R
4,646,234	2/1987	Tolman et al.	380/4 X
4,649,510	3/1987	Schmidt	380/4
4,654,799	3/1987	Ogaki et al.	364/479
4,658,093	4/1987	Hellman	380/25
4,672,554	6/1987	Ogaki	364/479
4,674,055	6/1987	Ogaki et al.	364/479
4,740,890	4/1988	William	380/4 X
4,780,905	10/1988	Cruts et al.	380/44
4,787,050	11/1988	Suzuki	364/479
4,796,181	1/1989	Wiedemer	364/406
4,816,653	3/1989	Anderl et al.	235/380
4,816,654	3/1989	Anderl et al.	235/380
4,817,140	3/1989	Chandra et al.	380/4
4,864,516	9/1989	Gaither et al.	395/153
4,879,645	11/1989	Tamada et al.	235/380 X
4,937,863	6/1990	Nashua et al.	380/4
4,949,257	8/1990	Orbach	364/401

4,999,806	3/1991	Chernow et al.	380/4 X
5,006,849	4/1991	Baarmaan et al.	341/95
5,008,814	4/1991	Mathur	371/19 X
5,014,234	5/1991	Edwards, Jr.	395/186
5,016,009	5/1991	Whiting et al.	341/67
5,051,822	9/1991	Rhoades	358/86
5,056,009	10/1991	Mizuta	393/490
5,103,392	4/1992	Mori	380/4
5,103,476	4/1992	Waite et al.	380/4
5,166,886	11/1992	Molnar et al.	364/479
5,181,107	1/1993	Rhoades	358/86
5,199,066	3/1993	Logan	380/4
5,214,697	5/1993	Saito	380/4
5,222,134	6/1993	Waite et al.	380/4
5,245,330	9/1993	Wassink	340/825.34
5,267,171	11/1993	Suzuki et al.	364/479
5,367,704	11/1994	Hasuo et al.	395/800
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5-89363	4/1993	Japan
5-266575	10/1993	Japan
5-298058	11/1993	Japan
6-95871	4/1994	Japan

ART-UNIT: 244
 PRIM-EXMR: Edward R. Cosimano
 LEGAL-REP: Staas & Halsey

ABSTRACT:

A software charging system includes a utilization permitting device for giving permission to use a software storing medium storing ciphered programs or data (software); and an authorization center capable of communicating with the utilization permitting device for setting a utilizable amount, totalling utilization amounts and charging a user. The utilization permitting device includes: a utilization permission processing part having a clock for obtaining date and time data, and having a date and time data storing unit for storing obtained date and time data until obtaining next data and time data; and a utilization amount managing part for calculating a software utilization amount of an end user. A software utilization amount is managed based on the number of days at the utilization permission processing part.

24 Claims, 15 Drawing Figures

US PAT NO: 5,555,304 [IMAGE AVAILABLE] ANS: 3
 DATE ISSUED: Sep. 10, 1996
 TITLE: Storage medium for preventing an illegal use by a third party
 INVENTOR: Takayuki Hasebe, Kawasaki, Japan
 Ryota Akiyama, Kawasaki, Japan
 Makoto Yoshioka, Kawasaki, Japan
 ASSIGNEE: Fujitsu Limited, Kanagawa, Japan (foreign corp.)
 DISCL-DATE: Mar. 15, 2013
 APPL-NO: 08/341,176
 DATE FILED: Nov. 18, 1994
 REL-US-DATA: Division of Ser. No. 31,339, Mar. 15, 1993, Pat. No. 5,392,351.
 FRN-PRIOR: Japan 4-058048 Mar. 16, 1992
 INT-CL: [6] H04L 9/32; G06F 12/14
 US-CL-ISSUED: 380/4, 25
 US-CL-CURRENT: 380/4, 25
 SEARCH-FLD: 380/4, 25
 REF-CITED:

U.S. PATENT DOCUMENTS

4,683,553	7/1987	Mollier	380/4
4,757,534	7/1988	Matyas et al.	380/25
4,785,361	11/1988	Brotby	380/4 X
4,850,017	7/1989	Matyas, Jr. et al.	380/21
4,866,769	9/1989	Karp	380/4 X
5,010,571	4/1991	Katznelson	380/4
5,058,162	10/1991	Santon et al.	380/25
5,065,429	11/1991	Lang	380/25
5,199,066	3/1993	Logan	380/4 X
5,276,735	1/1994	Boebert	380/4 X
5,287,408	2/1994	Samson	380/4 X
5,379,433	1/1995	Yamagishi	380/4 X

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0268139	5/1988	European Patent Office
3-83132	4/1991	Japan
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Albert et al., Computer, vol. 17, No. 4, Apr., 1984, Long Beach, California "Combating Software Piracy by Encryption and Key Management".

ART-UNIT: 222
 PRIM-EXMR: Gilberto Barron, Jr.
 LEGAL-REP: Nikaido, Marmelstein, Murray & Oram LLP

ABSTRACT:

A storage medium stores encrypted electronic data, a medium personal number which is unique for each storage medium and encrypted permission information. At least the medium personal number is written onto the storage medium in an un-rewritable form which a user computer cannot rewrite.

28 Claims, 23 Drawing Figures

US PAT NO: 5,796,824 [IMAGE AVAILABLE] ANS: 4
 DATE ISSUED: Aug. 18, 1998
 TITLE: Storage medium for preventing an irregular use by a third party
 INVENTOR: Takayuki Hasebe, Kawasaki, Japan
 Ryota Akiyama, Kawasaki, Japan
 Makoto Yoshioka, Kawasaki, Japan
 ASSIGNEE: Fujitsu Limited, Kanagawa, Japan (foreign corp.)
 APPL-NO: 08/603,760
 DATE FILED: Feb. 20, 1996
 REL-US-DATA: Division of Ser. No. 341,176, Nov. 18, 1994, Pat. No. 5,555,304, which is a division of Ser. No. 31,339, Mar. 15, 1993, Pat. No. 5,392,351.
 FRN-PRIOR: Japan 4-058048 Mar. 16, 1992
 INT-CL: [6] H04L 9/32
 US-CL-ISSUED: 380/4, 25
 US-CL-CURRENT: 380/4, 25
 SEARCH-FLD: 380/4, 25
 REF-CITED:

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4,757,534	7/1988	Matyas et al.
4,785,361	11/1988	Brothby
4,850,017	7/1989	Matyas, Jr. et al.
4,866,769	9/1989	Karp
5,010,571	4/1991	Katznelson
5,058,162	10/1991	Santon et al.

5,065,429	11/1991	Lang
5,199,066	3/1993	Logan
5,276,735	1/1994	Boebert et al.
5,287,408	2/1994	Samson
5,379,433	1/1995	Yamagishi

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0 144 522	8/1984	European Patent Office
0 268 139	5/1988	European Patent Office
3-83132	4/1991	Japan
WO 88/02202	3/1988	World Intellectual Property Organization

OTHER PUBLICATIONS

Albert et al., Computer, vol. 17, No. 4, Apr., 1984, Long Beach, California, "Combatting Software Piracy by Encryption and Key Management".

ART-UNIT: 222
 PRIM-EXMR: Gilberto Barron, Jr.
 LEGAL-REP: Nikaido Marmelstein Murray & Oram LLP

ABSTRACT:

A storage medium stores encrypted electronic data, a medium personal number which is unique for each storage medium and encrypted permission information. At least the medium personal number is written onto the storage medium in an un-rewritable form which a user computer cannot rewrite.

16 Claims, 23 Drawing Figures

US PAT NO: 5,408,531 [IMAGE AVAILABLE] ANS: 5
 DATE ISSUED: Apr. 18, 1995
 TITLE: Information recording/reproducing apparatus for converting and processing data exceeding error correction ability at recording
 INVENTOR: Yoshio Nakajima, Higashimurayama, Japan
 ASSIGNEE: Olympus Optical Co., Ltd., Tokyo, Japan (foreign corp.)
 APPL-NO: 07/942,264
 DATE FILED: Sep. 9, 1992
 FRN-PRIOR: Japan 3-241955 Sep. 20, 1991
 INT-CL: [6] H04L 9/00; H03M 13/100; G06F 11/10
 US-CL-ISSUED: 380/3, 4, 9, 23, 24, 49, 50, 54; 235/379, 380; 371/37.1, 37.4, 37.5
 US-CL-CURRENT: 380/3; 235/379, 380; 380/4, 9, 23, 24, 49, 50, 54; 714/752, 755, 756
 SEARCH-FLD: 380/2, 3, 4, 9, 23, 24, 28, 49, 50, 54, 25; 235/379, 380; 371/37.1-37.4, 38.1, 37.5
 REF-CITED:

U.S. PATENT DOCUMENTS

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4,788,685	11/1988	Sako et al.	371/37.5
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4,852,101	7/1989	Kobayashi et al.	371/37.5
4,903,296	2/1990	Chandra et al.	380/4

ART-UNIT: 222
 PRIM-EXMR: Bernarr E. Gregory
 LEGAL-REP: Armstrong, Westerman, Hattori, McLeland & Naughton

ABSTRACT:

After an error correcting code is added to a data to be recorded at recording, a data converting process, such as data rotation or data interchange is executed so as to exceed an error correcting ability when the data is reproduced at reproducing, and then the data is recorded on a recording medium. At the time of data reproducing, an inverse data converting process of the data converting process at the time of data

recording is executed and then, errors are corrected to restore the data. In a case when the data converting process at reproducing does not coincide with the information data converting process at recording, errors exceeding the error correcting ability are generated in most of the cases. Thus, the information recording/reproducing apparatus of this invention has a function for protecting the data.

19 Claims, 27 Drawing Figures

US PAT NO: 5,392,351 [IMAGE AVAILABLE] ANS: 6
DATE ISSUED: Feb. 21, 1995
TITLE: Electronic data protection system
INVENTOR: Takayuki Hasebe, Kawasaki, Japan
Ryota Akiyama, Kawasaki, Japan
Makoto Yoshioka, Kawasaki, Japan
ASSIGNEE: Fujitsu Limited, Kanagawa, Japan (foreign corp.)
APPL-NO: 08/031,339
DATE FILED: Mar. 15, 1993
FRN-PRIOR: Japan 4-058048 Mar. 16, 1992
INT-CL: [6] H04L 9/32
US-CL-ISSUED: 380/4, 25
US-CL-CURRENT: 380/4, 25
SEARCH-FLD: 380/4, 25
REF-CITED:

U.S. PATENT DOCUMENTS

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4,757,534	7/1988	Matyas et al.	380/25
4,850,017	7/1989	Matyas, Jr. et al.	
5,010,571	4/1991	Katznelson	380/4
5,058,162	10/1991	Santon et al.	380/4 X
5,065,429	11/1991	Lang	380/4 X

FOREIGN PATENT DOCUMENTS

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0268139	5/1988	European Patent Office
3-83132	4/1991	Japan
88-02202	3/1988	World Intellectual Property Organization

OTHER PUBLICATIONS

Computer vol. 17, No. 4, (Apr. 1984) Long Beach, Calif., USA; Combatting Software Piracy by Encryption and Key Management.

ART-UNIT: 222
PRIM-EXMR: Gilberto Barron, Jr.
LEGAL-REP: Nikaido, Marmelstein, Murray & Oram

ABSTRACT:

An electronic data protection system for protecting electronic data from illegal copying by a third party, includes: a storage medium for storing an encrypted electronic data, a medium number and encrypted permission information; a vendor computer having a personal key generating unit for generating a medium key based on the medium number, an electronic data decrypting key, and an encrypting unit for encrypting the electronic data decrypting key based on the medium key to generate the encrypted permission information; and a user computer having a personal key generating unit for generating a medium key based on the medium number, a decrypting unit for decrypting the encrypted permission information based on the medium key to generate the electronic data decrypting key which is the same as the electronic data decrypting key of the vendor computer, and a decrypting unit for decrypting the encrypted electronic data based on the electronic data decrypting key to generate a plain text electronic data.